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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,402	09/05/2000	Seung Woog Choi	K-214	8209

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,402

Applicant(s)

CHOI, SEUNG WOOG

Examiner

Stephen M. D'Agosta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

Claims 1-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Bojerd US 5,946,622 in view of Baum et al. US 6,510,319 and Weaver Jr. et al. US 5,917,811 (hereafter Bojerd, Baum and Weaver).

As per **claims 1 and 11**, Bojerd teaches a cellular/wireless system that supports both macrocell and picocell service (abstract and figure 1) and the ability to handoff between the two systems (C1, L30-37) **but is silent on** performing power control such that a transmission power level of said mobile station is not lowered, if said mobile station is determined to be within said soft handoff region and if a soft handoff of said mobile station is required.

Baum teaches optimizing forward link power levels during soft handover (title) whereby a power control system determines a forward link gain acceptable to all base stations involved in the soft handoff call (abstract, which is interpreted by the examiner to read on transmission power is not lowered).

With further regard to claim 11, Bojerd is **silent on** EHDM and HCM messages AND setting a reverse link coverage of said picocell greater than a forward link coverage of said picocell if said mobile is determined to be within said handoff region and if a soft handoff of said mobile is required.

Weaver teaches a base station a base station which balances a forward link coverage area to a reverse link coverage area (C46, L10-14). Since Weaver teaches balancing the two coverage areas, one skilled in the art expects that they can be unequal too (eg. reverse link coverage area is greater than forward link coverage area).

The examiner takes **Official Notice** that the EHDM and HCM messages are known in the art and would be used by one skilled in the art for this invention.

It would have been obvious to one skilled in the art at the time of the invention to modify Bojerd, such that power control is not lowered and EHDM/HCM messages are

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used, to provide dynamic power control (ie. power up, down, same) via known messaging standards during soft handoff in macro/picocell areas.

As per **claim 2**, Bojerd teaches claim 1 **but is silent on** wherein the transmission power level of said mobile is not lowered during a transmission of an extended handoff direction message and a handoff complete message.

The examiner takes **Official Notice** that the EHDM and HCM messages are known in the art and would be used by one skilled in the art for this invention.

It would have been obvious to one skilled in the art at the time of the invention to modify Bojerd, such that EHDM and HCM messages are used, to support known messaging standards.

As per **claims 3, 4, 12 and 15**, Bojerd teaches a cellular/wireless system that supports both macrocell and picocell service (abstract and figure 1) and the ability to handoff between the two systems (C1, L30-37) **but is silent on** performing power control such that a transmission power level of said mobile station is maintained or increased.

Baum teaches optimizing forward link power levels during soft handover (title) whereby a power control system determines a forward link gain acceptable to all base stations involved in the soft handoff call (abstract, which is interpreted by the examiner to read on transmission power is maintained or increased).

It would have been obvious to one skilled in the art at the time of the invention to modify Bojerd, such that power is maintained or increased, to provide dynamic power control.

As per **claims 5-7**, Bojerd teaches a cellular/wireless system that supports both macrocell and picocell service (abstract and figure 1) and the ability to handoff between the two systems (C1, L30-37) and picocell base stations that have the ability provide RF cellular communication support (eg. power control) for any mobile unit within its region (C1, L60-66) **but is silent on** power control and forward/reverse link coverage.

Baum teaches optimizing forward link power levels during soft handover (title) whereby a power control system determines a forward link gain acceptable to all base

stations involved in the soft handoff call (abstract, which is interpreted by the examiner to read on transmission power is maintained/increased).

Weaver teaches a base station a base station which balances a forward link coverage area to a reverse link coverage area (C46, L10-14). Since Weaver teaches balancing the two coverage areas, one skilled in the art expects that they can be unequal too (eg. reverse link coverage area is greater than forward link coverage area).

It would have been obvious to one skilled in the art at the time of the invention to modify Bojerd, such that power is maintained or increased, to provide dynamic power control and specific coverage area(s).

As per **claims 8-10, 13-14 and 16-19**, Bojerd teaches claim 12 **but is silent on** controlling transmission power of a base station which provides service to said picocell to set said forward link coverage greater than/relatively equal to a size of said picocell.

Baum teaches optimizing forward link power levels during soft handover (title) whereby a power control system determines a forward link gain acceptable to all base stations involved in the soft handoff call (abstract, which is interpreted by the examiner to read on transmission power is maintained/increased).

Weaver teaches a base station a base station which balances a forward link coverage area to a reverse link coverage area (C46, L10-14). Since Weaver teaches balancing the two coverage areas, one skilled in the art expects that they can be unequal too (eg. reverse link coverage area is greater than forward link coverage area).

It would have been obvious to one skilled in the art at the time of the invention to modify Bojerd, such that power is maintained or increased, to provide dynamic coverage area(s).

As per **claim 20**, Bojerd teaches a cellular/wireless system that supports both macrocell and picocell service (abstract and figure 1) and the ability to handoff between the two systems (C1, L30-37) **but is silent on** setting reverse link coverage of picocell greater than forward link coverage for soft handoff wherein controlling transmission power of BTS of picocell to set forward link coverage relatively equal to a size of said picocell and setting reverse link coverage greater than forward link coverage by not attenuating signals received by base station AND performing power control such that a

transmission power level of said mobile station is not lowered, if said mobile station is determined to be within said soft handoff region and if a soft handoff of said mobile station is required.

Baum teaches optimizing forward link power levels during soft handover (title) whereby a power control system determines a forward link gain acceptable to all base stations involved in the soft handoff call (abstract, which is interpreted by the examiner to read on maintains or increases transmission power).

Weaver teaches a base station which balances a forward link coverage area to a reverse link coverage area (C46, L10-14). Since Weaver teaches balancing the two coverage areas, one skilled in the art expects that they can be unequal too (eg. reverse link coverage area is greater than forward link coverage area).

It would have been obvious to one skilled in the art at the time of the invention to modify Bojerd, such that power is maintained or increased, to provide dynamic power control during soft handoff in macro/picocell areas.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

1. Chheda US 6,26,529 teaches handoff in highly sectorized cells.
2. EP 0680160 teaches power control during soft handoff.
3. Raith et al. US 5,353,332 teaches radiophone system.
4. Bender US 6,253,085 teaches power adjustment during soft handoff.
5. Han US 6,321,089 teaches reverse link soft handoff method.
6. Kang et al. US 6,487,191 teaches power control during soft handoff.
7. Chen et al. US 6,512,925 teaches power control while in soft handoff.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

SMD

June 6, 2003


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
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